



Technical English
Unit 17
professional english
Wood

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deciduous	المتساقطة
coniferous	الأشجار الصنوبرية
grain	حبة
knots	عقدة
timber (BrE) or lumber (AmE).	خشب
sawmills	مناشير
sawn	منشور



A. Categories of wood

The two main categories of wood are:

- **hardwood** - usually from deciduous trees, which lose their leaves in autumn, although some hardwood (for example, tropical hardwood) comes from other types of tree
- **softwood** - from coniferous trees, which remain green throughout the year



A. Categories of wood

In engineering, wood can be categorized as:

- **solid wood** - softwood or hardwood that has been sawn into specific shapes and sizes, but whose natural structure, consisting of **grain** and **knots**, remains intact
- **engineered wood**- made by **bonding** {sticking together} layers of solid softwood or hardwood, or by mixing quantities of wood particles and bonding them with resin.

Notes: In industry, wood is often referred to as **timber** (BrE) or **lumber** (AmE).

In American English, timber generally means wood that is still growing in trees.

Knot is pronounced /not/ (the k is silent).



B. Solid structural timber

The text below is from a technical handbook about **structural timber**- wood intended to support loads in a structure.

Generally, timber is cut to the required **section**- the width and depth that determine its cross section -at **a sawmill**, where a range of section sizes are produced. Timber from sawmills is generally supplied in **rough-sawn** sections. This refers to the surface texture produced by **sawing** timber with **a circular saw**. If the timber needs to have a smooth finish - for example, because it will be visible in the structure- it can subsequently be **planed** to smooth its surface.





B. Solid structural timber



Because the strength of wood varies, structural timber must be **stress-graded**. This means its strength is tested in order to give it a **stress grade**- a standard strength value which an engineer can use for design calculations. Timber can be **mechanically stress-graded**, where its strength is checked by machine. It can also be **visually stress-graded**, where the wood is examined by an inspector who looks for potential weaknesses- in particular, the position of knots.



C. Engineered wood

Engineered wood covers a range of softwood and hardwood materials. It includes:

- cheap, low-strength **boards**, such as **particle board** (often called chipboard) and **medium density fibre board (MDF)**
- stronger boards suitable for structural use - **primarily orientated strand board (OSB)**, which is made from strands of wood bonded with resin, and **plywood**, which consists of several **plies (layers)** of solid wood, bonded so that the grain of each ply **runs** at 90 degrees to that of the adjacent plies, to provide increased strength
- **glue-laminated** sections- sometimes called **glulams** - which can be used as major structural elements, such as beams, in large buildings.



Particle board or chipboard



Plywood



Orientated strand board (OSB)



17.1 Match the two parts to make correct sentences about wood. In each case, there is more than one possible answer. Look at A opposite to help you

1 Engineered wood

2 Softwood

3 Solid wood

a comes only from coniferous trees.

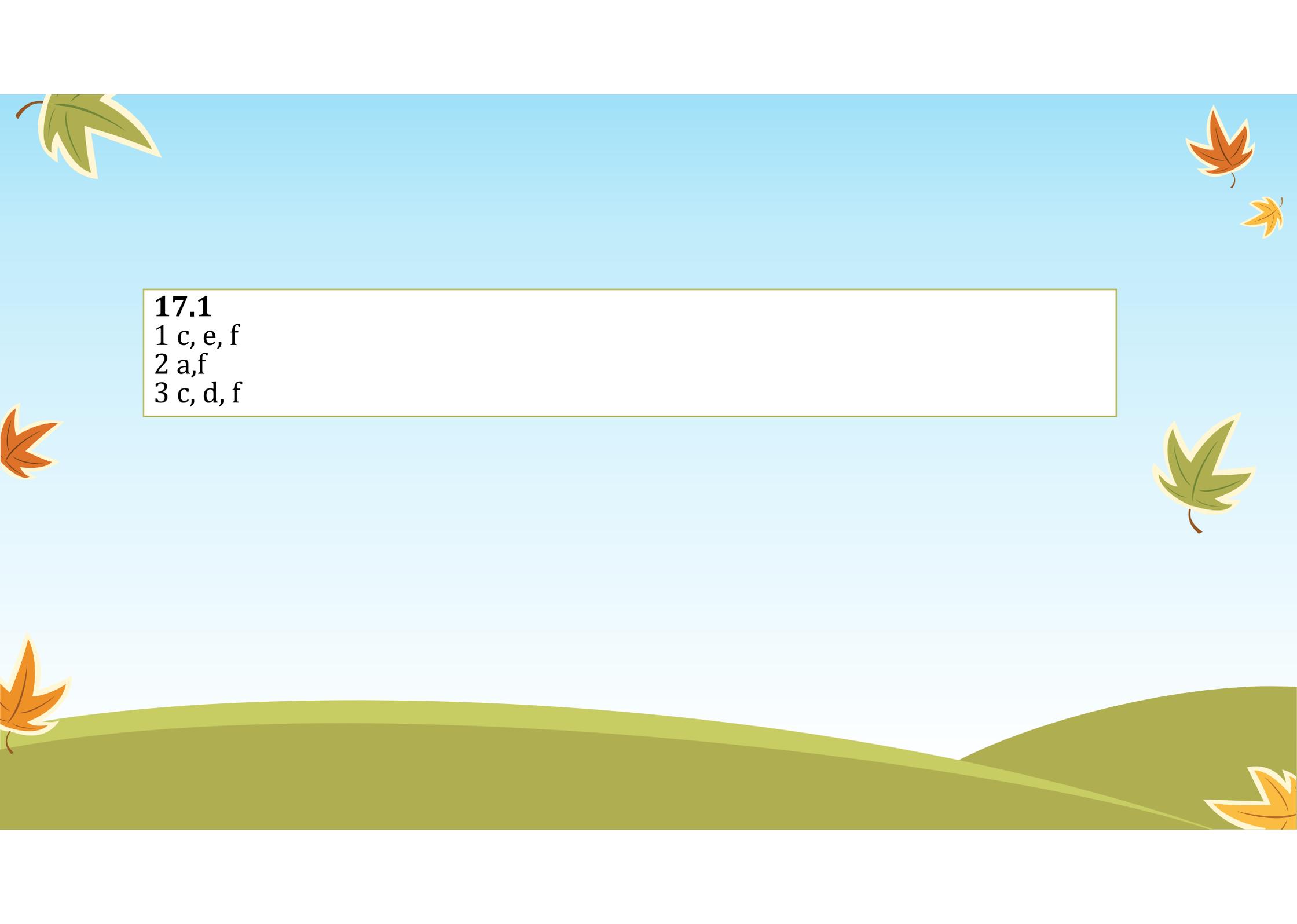
b comes only from deciduous trees.

c can come from either coniferous or deciduous trees.

d specifically describes single pieces of timber, not multiple pieces that have been bonded together.

e is always made from multiple pieces or particles of wood.

f may have knots in it.



17.1

1 c, e, f

2 a, f

3 c, d, f



17.2 Complete the sentences below using words and expressions from B opposite.

1 Wood has a smooth finish after it has been

.....

2 Wood cut with a circular saw is called

..... timber.

3 After timber is tested for strengths and weaknesses, it is given a

.....

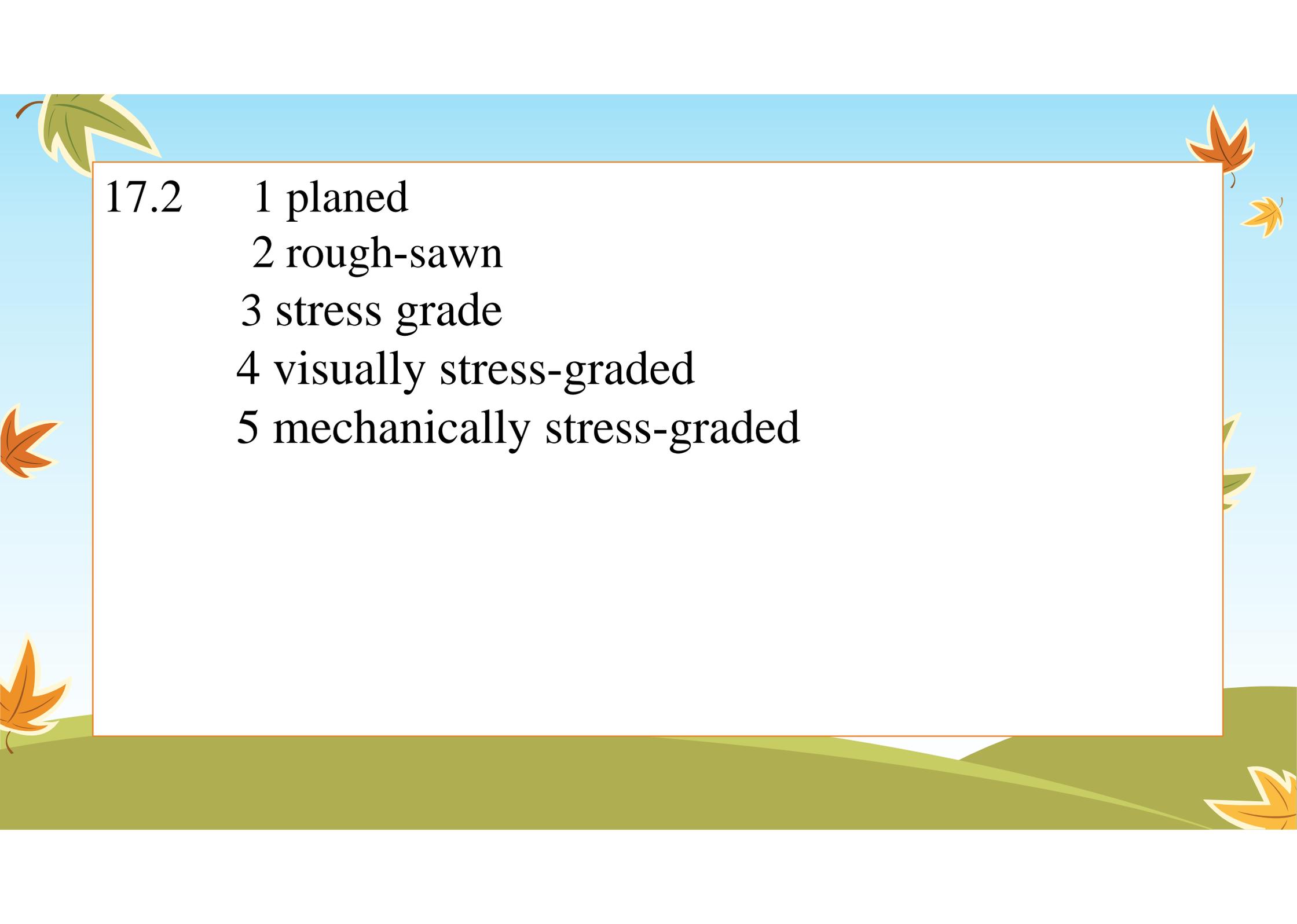
4 When timber is inspected by a person who looks for

.....weaknesses, it is.....

5 When timber is inspected by a machine which tests its

.....strength, it is



- 
- 17.2
- 1 planed
 - 2 rough-sawn
 - 3 stress grade
 - 4 visually stress-graded
 - 5 mechanically stress-graded

17.3 Complete the article about the environmental considerations of wood using words from B and C

From an environmental perspective, wood has many advantages. Firstly, it comes from a sustainable source. Coniferous trees grow relatively fast, providing a rapidly replaceable source of (1) Secondly, almost all the timber in a tree can be utilized, leaving little or no waste. The best quality wood can be used for structural applications, where solid, (2) sections are required by engineers; for high-strength elements such as (3) beams; and in the high-quality plies used to make (4) Smaller strands can be made into engineering wood with structural properties, such as (5) And small particles and fibres, including those from waste timber, can go into cheaper materials, like (6) board and (7).....

17.3 softwood / timber

2 stress-graded

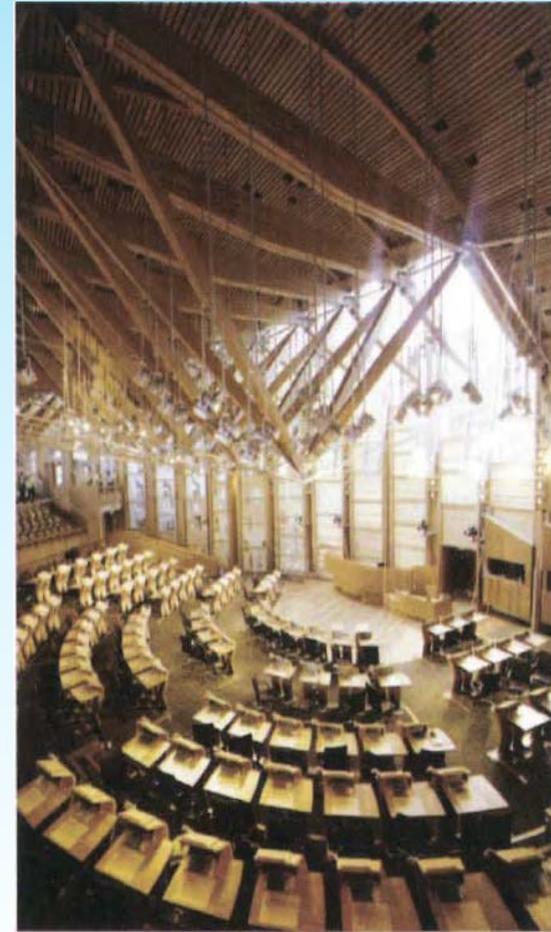
3 glue-laminated

4 plywood

5 orientated strand board / OSB

6 particle

7 medium-density fibreboard / MDF



Glue-laminated timber in the Scottish Parliament building in Edinburgh, Scotland

I know it



Any Questions